RECORD OF DECISION
BWCAW NON-NATIVE INVASIVE PLANT MANAGEMENT PROJECT
U.S. FOREST SERVICE
BOUNDARY WATERS CANOE AREA WILDERNESS
SUPERIOR NATIONAL FOREST
COOK, LAKE, AND ST. LOUIS COUNTIES, MINNESOTA

BACKGROUND

The Superior National Forest has a unique and limited window of opportunity to prevent widespread natural resource impacts caused by non-native invasive plant (NNIP) species in the Boundary Waters Canoe Area Wilderness (BWCAW). Compared to many other wilderness areas, the occurrence of NNIP in the BWCAW is relatively low. Most NNIP species are currently limited to campsites and portages, yet they are surrounded by thousands of acres of susceptible habitat such as rock outcrops and wetlands, and thus threaten native plant communities and wilderness character.

Figure 1. Portion of long rhizome on Canada thistle.

The only control method currently approved for use in the BWCAW is manual treatment (hand pulling, cutting, or digging) of NNIP according to the 2006 Superior National Forest Non-native Invasive Plant Management Environmental Assessment. Unfortunately, most of the NNIP species occurring in the BWCAW cannot be eradicated by manual treatment.

The high-risk habitats and ineffectiveness of the currently available control method combine to pose a threat to the ecological integrity of the BWCAW.

In order to maintain and improve aquatic and terrestrial wildlife habitat, to maintain healthy, resilient native plant communities, and to maintain the wilderness character and ecological integrity of the BWCAW, there is a need to implement an integrated pest management (IPM) approach that provides for treatment methods that will be effective in eradicating or containing all existing species of NNIP infestations and provides for a rapid and effective response to new infestations. Elements of IPM include education, prevention, coordination, inventory and monitoring, in addition to treatments of NNIP infestations. The EIS process and supporting analysis as documented in the BWCAW Non-native Invasive Plant Management Project Final EIS provided an opportunity for public involvement and helped me to make an informed decision regarding implementation of an integrated management approach to managing NNIP in the BWCAW.

DECISION

Based on my review of the Environmental Impact Statement (EIS), I have decided to implement Alternative 2.

Alternative 2 is based on the proposed action presented in the April 2011 scoping report with two primary changes: 1. Increasing treatment of known NNIP in the BWCAW from a total of 13 acres identified in 2010 to a total of 14 acres identified in 2011 2. Including projected treatment of a total 40 to 60 acres of new NNIP (rather than 7 additional acres originally proposed in the April 2011 scoping report) resulting from the changed conditions caused by the 2011 Pagami Creek Fire which burned a total 93,000 acres (mostly in the BWCAW). Individual treatment sites will range in size from about .0002 to 3.4 acres. This selected alternative will provide for a combination of herbicide and manual treatment methods to contain or eradicate NNIP in the Boundary Waters Canoe Area Wilderness (BWCAW) over the next ten years. Herbicide will be applied using a hand pump or sponge herbicide application. Herbicide application will be used on NNIP species with spreading root systems, and manual control methods will be used on species with tap roots.

A number of mitigation measures are part of Alternative 2 and are incorporated in my decision, including:

- Operational standards and guidelines (Appendix B of the FEIS)
- Site Design Criteria (Appendix C of the FEIS)
  - Spot application method to minimize quantity of chemical and impacts to non-target plants.
  - Timing of treatments to avoid busy use season.
  - Public notice, signing or applicators will remain on site until herbicide dries.
  - A set back from water bodies
- Selection of low toxicity herbicides. (Appendix D of the FEIS)
- An accidental spill plan (Appendix F of the FEIS).

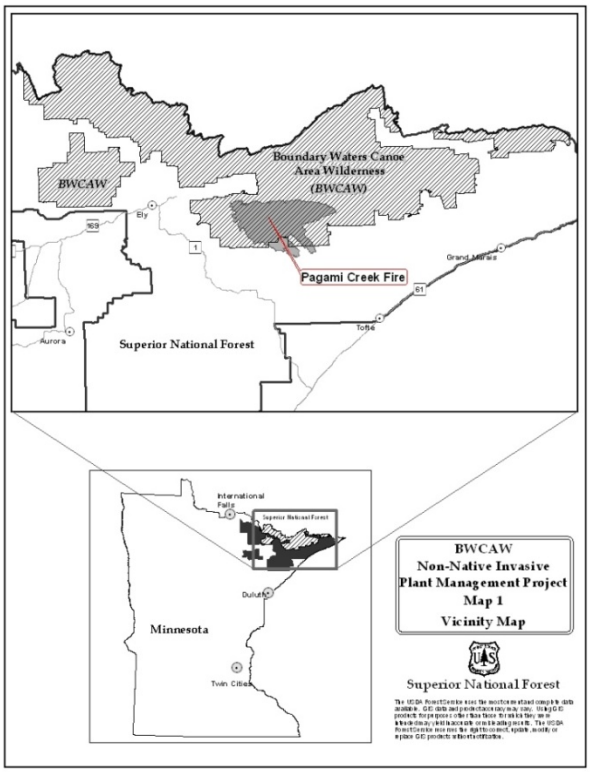
An integrated pest management approach will be used. This means that the Superior National Forest will implement treatments described in Alternative 2, and we will also continue to implement existing programs of prevention, coordination, inventory and monitoring, and education to reduce the risk of future NNIP impacts. A description of the IPM is found in Appendix H of the FEIS.

The specific acres and species that will be treated are shown in Table 1, and Figure 1 shows the vicinity map for the project. In addition, 40 to 60 acres of future NNIP locations may be treated under my decision. As described in the FEIS, these small NNIP infestations are scattered across the 1.1 million acre wilderness.

Table 1. Species, acres, and treatment types

KNOWN NNIP LOCATIONS				
Species Name	**Total acres**	**Acres manual control**	**Acres using herbicide**	**Herbicide**
Bull thistle	0.07	0.07		
Canada thistle	2.9		2.9	Aminopyralid
Cypress spurge	0.1		0.1	Imazapic
Goutweed	1.8		1.8	Metsulfuron methyl
Non-native hawkweeds	2.8		2.8	Aminopyralid
Leafy spurge	0.02		0.02	Imazapic
Oxeye daisy	1.5		1.5	Aminopyralid
Purple loosestrife	0.3		0.3	Triclopyr
Siberian peabush	0.0002		0.0002	Triclopyr
Spotted knapweed	3.4	3.4		
St. Johnswort	0.004		0.004	Metsulfuron methyl
Tansy	1.4		1.4	Metsulfuron methyl
Tatarian honeysuckle	0.02		0.02	Triclopyr
TOTALS (known infestations)	**14.3**	**3.5**	**10.8**	
PROJECTED FUTURE NNIP LOCATIONS				
Approximately 40-60 acres of a combination of herbicide and manual treatments				

Figure 1. Project vicinity map.



A detailed monitoring plan is presented in Appendix I of the FEIS and is included in my decision.

The monitoring plan for this project tiers to the Superior National Forest Land and Resource Management Plan (Forest Plan). Two types of monitoring are conducted on the Superior National Forest:

1) Effectiveness monitoring addresses how well management actions achieve desired outcomes or objectives that are identified in the Forest Plan. This kind of monitoring is conducted over the entire Forest on a periodic basis and the monitoring results are used on future projects.

2) Implementation monitoring is designed to answer, "Did we do what we said we were going to do?"

The project interdisciplinary team will periodically review the project implementation as a whole during field trips and follow-up meetings. If monitoring indicates project implementation is not occurring as planned, measures will be taken immediately to correct the actions. For example, if treatments do not correctly meet design features for a resource area, or mitigations have not been met, changes in implementation will be made. The results of project monitoring will be analyzed in reports and shared with the public on the Forest's website.

DECISION RATIONALE

I am selecting Alternative 2 because it represents a measured and thoughtful action that balances my obligations to maintain both the wilderness character of the BWCAW as well as the integrity of the native plant communities of the boreal forest. The FEIS is the culmination of 5 years of discussions about NNIP with partners. These efforts began in 2008 when we cooperated with Friends of the BWCAW to publish the visitor education booklet "Non-native Invasive Species in the Border Lakes Region" and continued with other agencies and partners in the years following. Just as importantly, it incorporates 7 years of experience using and monitoring the same herbicides on the Superior National Forest to manage NNIP outside the wilderness. Our extensive coordination with partners as well as the depth of our experience using herbicides to safely and effectively manage NNIP are important factors for my decision to select Alternative 2.

The **Purpose and Need** for this project (FEIS Section 1.4) is:

> In order to maintain and improve aquatic and terrestrial wildlife habitat, to maintain healthy, resilient native plant communities, and to maintain the character and ecological integrity of the BWCAW, there is a need to implement an integrated pest management approach that eradicates or contains existing NNIP infestations and provides for a rapid response to new infestations. We propose to implement NNIP management activities, including manual and herbicide control methods, over a ten-year period in the BWCAW.
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> The Forest Plan (USDA Forest Service 2004 [see D-VG-1, D-VG-3, D-WL-1, D-WL-6, D-WL-9, O-WL-37, O-WL-38]) directs us to work to establish native vegetation communities and aquatic and terrestrial wildlife habitats that are diverse, productive, healthy, and resilient. Native plants should dominate all terrestrial and aquatic ecosystems, with non-native plants forming at most a minor component. The Forest Plan directs us to reduce the spread of terrestrial or aquatic non-native invasive species that pose a risk to native ecosystems. In the BWCAW, the plan directs us to work toward the removal of non-indigenous species and preservation of the natural ecosystem (p. 3-60). Specifically, the Plan's objective (O-WL-38) is to use integrated pest management to:
>
> - Eradicate any populations of new invaders,
> - Contain or eradicate populations of recent invaders that have not become widespread yet,
> - Limit the spread of widespread, established invaders.

As documented in the FEIS (Section 3.4), my decision contains the most efficient and effective methods to meet the purpose and need and control the spread of NNIP in the BWCAW while adequately minimizing adverse impacts to other resources. The use of an integrated pest management approach, including herbicide, best accomplishes the objectives in the Forest Plan and meets the needs of the current situation in the BWCAW.

Comparison of Alternatives: No significant issues were identified as a result of public scoping. However, the public raised a concern during scoping about the effects of herbicide use on wilderness character. I felt it important to acknowledge and address this concern through development and analysis of Alternative 3 which proposes treating NNIP in the BWCAW over the next 10 years with manual methods only. I also considered Alternative 1, No Action, as a baseline to evaluate the effects of the action alternatives. A more detailed comparison of these alternatives can be found in Sections 2.2.1 to 2.2.3 of the EIS.

- **Alternative 1 (No Action) –** Continue existing management of NNIP until 2016 in the BWCAW based on the 2006 Decision Notice (DN) for the Superior National Forest Non-native Invasive Plant Management Environmental Assessment. This Forest-wide decision directed implementation of an IPM strategy on all of the 145.9 acres of NNIP on the Superior National Forest but allowed for only manual treatment methods in the BWCAW. At this time all of the approximately 14.3 acres of known NNIP are being treated but the 2006 decision does not authorize any additional treatments in the BWCAW when new infestations are found.
- **Alternative 2** – Use a combination of herbicides and manual treatments over the next 10 years as part of an IPM strategy in the BWCAW to manage a total of 14.3 acres of known NNIP infestations and approximately 40-60 acres of forecasted new infestations. This alternative is based on the proposed action described in the Scoping Package with adjustments to address updated field surveys and large scale changes in existing conditions that resulted from the 2011 Pagami Creek Wildfire which burned 93,000 acres, mostly within the BWCAW.
- **Alternative 3 –** Use only manual treatments over the next 10 years to treat approximately 14.3 acres of known NNIP infestations in the BWCAW plus approximately 600-650 acres of new NNIP infestations as part of an IPM strategy. This alternative was developed to address the scoping issue concerning effects of herbicide use on two components of wilderness character - trammeling and an unconfined type of recreation.

Other alternatives considered but eliminated from further analysis include: 1.) the proposed action described in the Scoping Package and, 2.) use of biological controls for NNIP in the BWCAW. Details are documented in Section 2.3 of the EIS.

As I thoroughly reviewed the FEIS, I determined that the IDT had adequately analyzed and disclosed the relevant effects on the resources to the level commensurate with the risks concerning NNIP management and wilderness management activities. Members of the IDT analyzed three alternatives in detail, and developed and considered two alternatives that were not carried forward for detailed analysis. This range of alternatives is broad enough in my professional view to provide a range of effects of different levels of vegetation management actions. I believe this analysis provided me with sufficient information to make a sound and reasoned decision, based on maintaining and improving aquatic and terrestrial wildlife habitat, maintaining healthy, resilient native plant communities, and maintaining the character and ecological integrity of the BWCAW. I considered the following resource tradeoffs among the alternatives, with wilderness character being a major consideration in my decision.

Wilderness character is an important consideration in this project. Wilderness Character may be described as the combination of biophysical, experiential, and symbolic ideas that distinguishes wilderness from other lands. These ideas combine to form a complex and sometimes subtle set of relationships among the land, its management, and the meanings people associate with wilderness. The Wilderness Act of 1964 mandates the Forest Service to preserve wilderness character as a whole. Therefore, the alternatives were analyzed with regards to all four wilderness qualities defined in the "General Technical Report, Monitoring Selected Conditions Related to Wilderness Character: a National Framework" (USDA Forest Service 2005) in terms of how the proposed treatments would manipulate the ecological system, affect physical resources, and affect opportunities for solitude or primitive and unconfined recreation.

1. *Untrammeled Quality- wilderness is essentially unhindered and free from modern human control or manipulation.*
2. *Undeveloped Quality– wilderness is essentially without permanent improvements or modern human occupation.*
3. *Natural Quality – wilderness ecological ecosystems are substantially free from the effects of modern civilization.*
4. *Solitude or Primitive and Unconfined Recreation Quality – wilderness provides outstanding opportunities for peoples to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.*

There is a very close inter-relationship between these qualities. The untrammeled quality reflects quantity and intensity of human actions, whereas the natural quality reflects effects on physical and biological resources from these actions. Management actions to preserve natural quality may affect the untrammeled quality and solitude or primitive and unconfined recreation quality. I acknowledge that to some, the idea of using herbicides in a water-based wilderness is a paradox that represents a difficult issue – this is reflected in a number of public comments. However, many of these same comments describe concern for the spread of non-native invasives. Most of these commenters voice their support in favor of Alternative 2, and I believe the measured approach proposed by this alternative, which uses handpulling and herbicides to manage NNIP while at the same time minimizing short term impacts to wilderness character (FEIS Section 3.1), contribute to this public support.

In making my decision, I considered the overall resource impacts and particularly the short term and long term, cumulative trades-offs in the effects of the alternatives on wilderness character in light of the BWCAW as a whole. The detailed analysis is documented in the Minimum Requirements Decision Guide for this project (FEIS Appendix G). My intent is to limit manipulative actions to the extent practicable to both protect wilderness character and provide opportunities for public use and enjoyment of the wilderness. As a decision-maker, I authorize and monitor those actions choosing to impact some wilderness qualities in the short term to gain benefits for wilderness character in the long term.

I am selecting Alternative 2 because it has the greatest benefit to wilderness character. I acknowledge that this alternative would impact the untrammeled quality more in the short term

than the other two alternatives because it involves more manipulative actions (handpulling as well as herbicide use). I also acknowledge that herbicide use will impact the natural quality in the short term through the introduction of a chemical into the wilderness. Further, I acknowledge that treatment crews will impact the primitive/unconfined recreation quality when they temporarily restrict visitor use while waiting on treatment sites for herbicide to dry. However, Alternative 2 will cause less impact to the solitude quality than Alternative 3 because treatment crews will have a shorter presence in the wilderness because fewer treatments will be required to control NNIP than would be the case through handpulling alone. Most important, however, is the fact that Alternative 2 will benefit the natural quality much more than either of the other two alternatives. Over the long term Alternative 2 will prevent the spread of invasive plants and all of the subsequent impacts to the natural quality to a much greater degree than Alternatives 1 or 3. Preventing these impacts is critical and cannot be underestimated; this weighs heavily in my consideration of the short and long term trade-offs to wilderness character that will result from this project.

Project design elements are important in helping to limit the impacts to wilderness character above and contribute to my decision. For example, the choice of low toxicity herbicides with short half-lives will limit the negative effect of herbicide on the natural quality since the herbicide presence in the environment will be short. Timing treatments with lower visitor use periods will also reduce impacts to the solitude and primitive/unconfined quality. These elements reinforce my decision to select Alternative 2.

Besides providing the best balance between short term impacts to wilderness character and long term benefits to wilderness character, Alternative 2 results in the least amount of NNIP spread over the ten year project period relative to the other two alternatives, while at the same time having low risk of herbicide impacts to water resources and human health. Alternative 2 also responds to the changed condition of the Pagami Creek Fire better than the other alternatives because of the increased effectiveness of the treatment tools available. These are also important reasons in my decision to select Alternative 2.

Alternative 1, No Action, was not selected because it would allow the greatest amount of NNIP spread and provides no authority for treating any additional NNIP infestation that is found. This would cause the greatest impacts to the natural quality of wilderness character as well as the greatest impacts to native plant communities and aquatic and terrestrial wildlife habitat. Although there would be no risk to water resources or human health from herbicides, the low risk of such impacts from Alternative 2 do not justify the increased risk of weed spread that would occur under Alternative 1. Although no herbicide use would occur under Alternative 1, the impacts to wilderness character would be greatest with this Alternative due to the large amount of NNIP infestation anticipated under Alternative 1.

Alternative 3 would result in much more NNIP spread (600-650 ac) compared to Alternative 2 (40-60 ac). This risk of greater NNIP spread in the BWCAW, and the subsequent impacts to wilderness character is the key reason I selected Alternative 2 rather than Alternative 3. I acknowledge that herbicide use under Alternative 2 would cause short term risk of impacts to wilderness character, but over the long term wilderness character benefits much more from Alternative 2 due to the more effective NNIP treatments. Furthermore, the risks of herbicide use

in Alternative 2 have been minimized with project design; spot treatments, low use-rate herbicides that are selective, wipe on application near water, and transportation inside two watertight containers will all minimize risk of herbicide effects to the BWCAW. Finally, this decision authorizes herbicide use in the BWCAW for ten years; herbicide use in perpetuity is not authorized by this decision. There will be opportunity to monitor and evaluate herbicide use as this project is implemented in considering any future proposals. For these reasons, I select Alternative 2 over Alternative 3.

Besides considering the effects to wilderness character, I weighed the potential impacts of the three alternatives to several related resources:

Human health risk: The analysis for this project compared the proposed use of the selected herbicides to the outcomes of the National Forest Service herbicide risk analyses which evaluated toxicity, assessed a set of general exposure scenarios, and dose-response for children or women. By selecting low toxicity herbicides and timing treatments to coincide with periods of low visitation, the use of herbicides in Alternative 2 will have a low risk of impacts to human health (FEIS Section 3.2). Manual treatments proposed for all three alternatives pose extremely low potential health risks with potential of tripping hazards from tools.

Water resources: Impacts to water resources were evaluated in terms of Outstanding Resource Values, water quality, and aquatic life. The analysis for this project compared the proposed use of the selected herbicides to the outcomes of the national Forest Service herbicide risk analyses which evaluated toxicity and assessed a set of general exposure scenarios such as accidental spills and spray/drift/leaching into a pond or stream. The risk of negative effects to aquatic resources from Alternatives 1 and 3 are very low with slight potential of run-off or stirring up sediment where plants are pulled. For Alternative 2, there is a low risk of negative effects to aquatic life (with no risk to wild rice), no herbicide will be discharged into water bodies, no water quality standards will be exceeded, and no water bodies will be added to Minnesota's Impaired Waters List (FEIS Section 3.3). Alternative 2 will have the greatest long term benefit to aquatic resources by controlling and eradicating NNIP.

Non-native Invasive Plants: Potential for containing and eradicating known infestations of NNIP were compared among the alternatives. Achieving containment and eradication would take longer with Alternatives 1 and 3 then with Alternative 2. There will be much less spread of NNIP during project implementation under Alternative 2 than Alternatives 1 or 3 (FEIS Section 3.4). With less ground disturbance, Alternative 2 will result in less germination of NNIP seeds than Alternatives 1 and 3.

Native plants: The three alternatives would not differ greatly in their effects to native plants. All three alternatives would cause unintended damage to native plants adjacent to NNIP being pulled or treated with herbicide. Non-target native plants could be uprooted during manual treatments or some could be killed by herbicide, depending on the alternative. These minor effects would be short term, with Alternative 2 having a higher likelihood of effects than Alternative 1 or 3. However, in the long term, all alternatives would benefit native plants. Native plant recovery will happen more quickly under Alternative 2 compared to the other

alternatives (FEIS Section 3.5).

Threatened, Endangered, Sensitive (TES) Species: The analysis evaluated potential impacts to Canada lynx, a protected species under the federal Endangered Species Act. There would be no effect of any of the alternatives on Canada lynx, and none of the alternatives would cause any adverse modification to Canada lynx critical habitat. This determination is supported by the Biological Assessment and is based on consultation with the US Fish and Wildlife Service. (FEIS Appendix L).

Regional Forester Sensitive Species (RFSS): Under Alternative 1, no impact to most RFSS aquatic and terrestrial species is expected, but seven animals as well as RFSS plants that inhabit disturbed habitats or rock outcrops could experience small impacts. Alternative 2 will result in small potential impacts to one RFSS animal, Heather vole, as well as to RFSS plants that grow in disturbed areas or rock outcrops/cliffs (FEIS Section 3.7). Alternative 3 would have no impact to RFSS aquatic species or terrestrial animals, but RFSS plants found in disturbed habitats or rock outcrops/cliffs could experience small impacts. In the long term RFSS plant habitat would benefit from controlling and eradicating NNIP, with most benefit resulting from Alternative 2.

Wildlife: Neither Alternative 1 or 3 would impact wildlife or wildlife habitat as a result of the manual treatments proposed by both alternatives. Alternative 2 poses a low risk of impacts from one of the herbicides for birds or mammals that eat contaminated vegetation, but due to the small scale of treatments few impacts are expected (FEIS Section 3.8). More wildlife would be impacted by not controlling NNIP. Less wildlife habitat will be negatively impacted under Alternative 2 because the spread of NNIP will be less than Alternatives 1 and 3.

Partnerships and Coordination - Another important component of an effective IPM program is partnerships and coordination as well as strong support from a broad spectrum of elected officials, agencies, and local wilderness advocates. NNIP do not respect property boundaries, and there is always more NNIP work to be done than budgets allow, so building partnerships with other land managers, property owners, and organizations is important to improve overall effectiveness of NNIP management.

PUBLIC INVOLVEMENT

At the very beginning of planning this project, Forest staff invested a large effort in meetings, field trips, and demonstrations with a local wilderness advocacy group and others to solicit input which was integrated into project development.

A notice of intent to prepare an EIS was published in the Federal Register on April 21, 2011 (Federal Register volume 76 number 77 page 22360). People were invited to review and comment on the proposal through a legal notice published in the Duluth News Tribune, and direct mailing of a Scoping Package to more than 400 individuals, landowners Tribal governments, and agencies. A Notice of Availability of a Draft Environmental Impact Statement (DEIS) was published on February 1, 2013 (Federal Register volume 78 number 22 page 7427)

for public review and comment. The DEIS was mailed to 36 individuals, landowners, Tribal governments, and agencies. Eleven comments on the DEIS were received.

The EIS (Chapter 4) lists agencies, organizations, and people who received copies.

The proposed action was listed in the Superior National Forest Schedule of Proposed Actions and project documents were posted and updated during the environmental analysis.

The Superior National Forest consulted with the Fond du Lac Band of Lake Superior Chippewa, Bois Forte Band of Chippewa, Grand Portage Band of Lake Superior Chippewa, and 1854 Treaty Authority throughout project development. No issues were identified by the Bands.

One of the comments to the DEIS was a strong recommendation for continuing to communicate progress and any adjustments to this project as it is implemented over the next 10 years. The Forest Service will include monitoring results in the Forest monitoring and evaluation report as well as project monitoring and updates via the Forest website, social media, and direct contacts with interested parties.

Issues identified: I received 13 letters commenting on the proposed action. Based on my review of the scoping comments, the scoping report, and my reviews of NNIP management with herbicides outside of the BWCAW, I determined it unlikely that the proposed management project would cause significant effects and therefore, there are no significant issues for this project. However, one issue identified through the analysis of public scoping comments represented an unresolved conflict with the proposed action. This issue regarding wilderness character drove the development of an additional alternative which was carried through the environmental analysis.

During the public comment period for the Draft EIS, interested parties submitted 11 comments. Some commenters such as the Friends of the Boundary Waters Canoe Area expressed support for moving ahead with implementation. Others, such as the Minnesota Department of Natural Resources, provided suggestions which have been included in the Final EIS. One concern, that of Wilderness Watch, continues to reflect a difference of opinion regarding the proposed action's potential impact to wilderness character.

With the exception of a comment from Wilderness Watch, our responses to public comments received during public review of the DEIS addressed concerns through adjustments in the proposed action or analysis and inclusion of additional information in the Final EIS. Wilderness Watch commented that the introduction of herbicides in the Wilderness represents "a significant trammeling of the Wilderness, a loss of essential wildness of the Boundary Waters." While it is true that Alternative 2 will result in some short term negative impacts to the untrammeled quality during the ten-year implementation, my decision considers all the wilderness qualities as a whole and I feel the overall, long term benefits to wilderness character outweigh these short term impacts. In addition, ongoing monitoring and evaluation will detect any unforeseen impacts and allow us to adjust implementation. I fully considered the differences in effects between Alternative 2 and Alternatives 1 and 3 which do not include the use of herbicides.

Several other issues were identified in the analysis of scoping comments which did not drive development of alternatives, including water quality, human health and safety, wildlife, native plants, and the effects of activities adjacent to the BWCAW on NNIP spread. These are summarized in FEIS Appendix K and analyzed in Chapter 3 of the Final EIS.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

There is no single factor that can be used to determine which alternative is environmentally preferred. Also, each alternative could be considered environmentally preferred based on different factors. Based on my professional experience and understanding of the Project and impacts, the primary factors I discuss for the alternatives in this section include: human health, water resources, non-native invasive plants, native plants, and wildlife habitat.

- **Human Health** - When risks to human health are considered, Alternatives 1 and 3 are both equally environmentally preferable over Alternative 2 (FEIS Section 3.2). Alternatives 1 and 3 both involve only manual NNIP treatment methods, and mitigations to prevent the risk of injury to BWCAW visitors would nearly eliminate this risk. Alternative 2 uses a combination of manual treatments and herbicide treatments, and while the risk of negative effects to human health from herbicides are low because of project design and operational standards and guides, the risk of an accident that puts human health at risk cannot be fully eliminated.

- **Water Resources** – From the stand point of water quality and aquatic life, Alternatives 1 and 3 have the least risk of impacts from herbicide use because none would occur under these alternatives (FEIS Section 3.3). They would thus be environmentally preferable to Alternative 2 which uses herbicides and has low risks of impacts to water quality and aquatic life. However, from the point of view of beneficial effects to aquatic life from control of NNIP, Alternative 2 would be the environmentally preferable alternative.

- **Non-native Invasive Plants** – When risk of spread of NNIP is considered, Alternative 2 is environmentally preferable over Alternatives 1 or 3 because more NNIP will spread under Alternatives 1 or 3 compared to Alternative 2 (FEIS Section 3.4). Approximately 40-60 acres of NNIP would spread in the next 10 years under Alternative 2 compared to 600-650 acres under Alternatives 1 or 3. The level of ecological consequences from NNIP spread is least with Alterative 2 and therefore it is the environmentally preferable over Alternatives 1 or 3.

- **Native Plants** – From the stand point of impacts to native plants from weed control treatments, Alternatives 1 and 3 would be slightly more environmentally preferable to Alternative 2 (FEIS Section 3.5). The handpulling treatments in Alternatives 1 and 3 would have slightly less risk of short term direct impacts to native plants than the handpulling and herbicide treatments that will be used for Alternative 2. However, from the point of view of long term beneficial effects to native plants from NNIP control, Alternative 2 would be environmentally preferable over Alternatives 1 or 3 because native plant habitat would be improved more quickly through use of herbicides in Alternative 2.

- **Wildlife and Wildlife Habitat** – When risk of impacts to wildlife are considered, Alternatives 1 and 3 are environmentally preferable over Alternative 2 (FEIS Section 3.8). There are no risks of impacts to wildlife from manual treatments proposed in these

alternatives, and while the risk of negative effects to wildlife from herbicides are low because of project design and operational standards and guides, the risk of an accident that puts wildlife at risk cannot be eliminated. However, from the point of view of beneficial effects to wildlife habitat from NNIP control, Alternative 2 would be environmentally preferable over Alternatives 1 or 3 because wildlife habitat would be improved more quickly through use of herbicides in Alternative 2.

Overall, I find that Alternative 2 is environmentally preferable since the long term benefits of NNIP control outweigh the short-term adverse potential effects to other environmental resources.

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

National Forest Management Act
The Forest Service is currently operating under the 2012 Planning Rule. As required by 36 CFR 219.15, this project is consistent with the 2004 Superior National Forest Land and Resource Management Plan. I considered the best available scientific information in making my decision. The project record demonstrates a thorough review of relevant scientific information, consideration of responsible opposing views, and, where appropriate, acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

A key consideration as I make my decision to implement Alternative 2 as the Selected Alternative is the consistency of the alternative with the Forest Plan's long-term goals and objectives. Alternative 2 incorporates appropriate Forest Plan desired conditions, objectives, standards, and guidelines Forest-wide as well as for Management Areas; therefore, the project is in conformance with the Forest Plan (e.g. see FEIS Sections 1.4 and 1.6.3). Alternative 2 is designed to meet non-native invasive plant management objectives as well as wilderness management objectives. Alternative 2 is also designed to meet direction for the Management Areas within the Project: Pristine Wilderness, Primitive Wilderness, Semi-Primitive Non-motorized Wilderness, and Semi-Primitive Motorized Wilderness (e.g. see FEIS Section 3.1).

Wilderness Act
After a thorough review of the FEIS, which concludes that Alternative 2 may have short term adverse impacts on the untrammeled quality and the solitude/unconfined recreation quality but long term benefits on the natural quality (FEIS Section 3.1), I find that Alternative 2 preserves wilderness character and complies with the Wilderness Act. See also Decision Rationale for more discussion on wilderness character.

BWCAW Act
The BWCAW Act provides for the protection and management of fish and wildlife of the wilderness, protects and enhances the natural values and environmental qualities of the region, and maintains high water quality of the area. The FEIS considers the effects of herbicide use on these values (FEIS Sections 3.1, 3.3, 3.5, 3.6, 3.7 and 3.8) as well as the effects of the spread of NNIP on these values (FEIS Section 3.4). In my professional opinion Alternative 2 and associated operational standards and guidelines comply with this Act.

Plant Protection Act
The Plant Protection Act sets forth rules for the movement of noxious weeds, establishes authority for creating a list of noxious weeds, establishes integrated management to control or contain undesirable plant species, and provides direction for cooperation with State agencies in the management of undesirable plants. With the project design and operational standards and guidelines, Alternative 2 fulfills the requirements of this Act.

National Forest Invasive Species Management Policy (FSM 2900)
Alternative 2 is consistent with the National Forest Invasive Species Management Policy that requires Forests to use integrated pest management, collaborate with stakeholders and adjacent landowners, and prevent and reduce the abundance of non-native invasive species (e.g. see Appendix H of the FEIS).

National Forest Pesticide Management Policy (FSM 2150)
The interdisciplinary team reviewed the Forest Service Manual on pesticide use and all applicable direction has been incorporated in the project design and operational standards and guidelines. My decision is consistent with this policy.

Federal Insecticide, Fungicide, and Rodenticide Act
FIFRA is the authority for the registration, distribution, sale, shipment, receipt, and use of pesticides. Alternative 2 complies with this Act because only pesticides registered or otherwise permitted in accordance with this act would be used following label instructions (FEIS Appendix B).

Clean Water Act
Based on the measures outlined in the FEIS to protect soil and water resources, waters would not be degraded and beneficial uses would be protected under Alternative 2 (FEIS Section 3.3).

Clean Air Act
Protection measures found in FEIS Appendix B include provisions, such as adhering to herbicide label requirements and restrictions related to wind speed that would minimize dispersal into the atmosphere. Also, herbicides would be limited to ground applications well dispersed over a very small percentage of the project area. These factors result in air quality effects that would be extremely minor and well within the requirements of the Clean Air Act (FEIS Section 3.9.4).

Endangered Species Act
Threatened and endangered animal species findings are summarized in Section 3.6 of the FEIS with the full Biological Assessment available in Appendix L of the FEIS. Because the analysis supports a “no effect” determination for Canada lynx and its critical habitat, no consultation with U.S. Fish and Wildlife Service was required; however, as a courtesy we shared the findings of the analysis with them. I find that Alternative 2 complies with the Endangered Species Act.

Regional Forester Sensitive Species (FSM 2670)

I find that Alternative 2 complies with Forest Plan and NFMA direction to maintain viable and well-distributed representation of all native species that occur on the Forest. The Biological Evaluation (BE) in Appendix M of the FEIS documents the evaluation of Regional Forester Sensitive Species (RFSS), species for which population viability is a concern. Although Alternative 2 may impact individuals of some species of terrestrial and aquatic wildlife, vascular plants, lichen, and bryophytes, implementation of Alternative 2 is not likely to cause a trend to federal listing or loss of viability (FEIS Section 3.7).

Migratory Bird Treaty Act
My decision complies with the Migratory Bird Treaty Act and the 2008 Memorandum of Understanding on migratory birds between the Forest Service and the U.S. Fish and Wildlife Service. The EIS Chapter 3 Wildlife section and FEIS Appendix M (Biological Evaluation) discloses effects to birds, focusing on species of management concern, and on habitat used by birds. As noted in the wildlife section, implementation of Alternative 2 is not likely to cause a trend to federal listing or loss of viability.

Bald Eagle Protection Act
My decision is consistent with the interagency agreement between the Forest Service and the USFWS to facilitate compliance with the Bald Eagle Protection Act, which restricts management activities within 330 feet of an eagle nest site. Alternative 2 does not include any activities within 330 feet of a known bald eagle nest during their nesting period (March 1 – August 30 – FEIS Appendix C).

National Historic Preservation Act
The project archaeologist evaluated Alternative 2 with regard to cultural resources protected under the specified laws and pertaining regulations and determined that the project would have No Effect assuming implementation of project mitigations to protect cultural resources at 12 sites (FEIS Section 3.9.4) are followed. I find that Alternative 2 complies with 36 CFR 800 under the terms of the Programmatic Agreement between Superior National Forest, Minnesota State Historic Preservation Office, Advisory Council of Historic Preservation, Bois Forte Band of Chippewa, and Grand Portage Band of Chippewa. I have determined, consistent with Forest Service direction on heritage resources, that there will be no significant effect on heritage resources.

Executive Orders

Executive Order 13112
This Executive Order directs Federal Agencies, whose actions may affect the status of invasive species, to (i) prevent the introduction of invasive species, (ii) direct and respond rapidly to, and control, populations of such species in a cost-effective and environmentally sound manner, as appropriations allow. My decision to select Alternative 2 complies with this Order (see Rationale for the Decision).

Executive Order 11990

This requires federal agencies to avoid, to the extent possible, long- and short-term adverse impacts associated with the destruction or modification of wetlands. The BWCAW NNIP Management Project involves spot removal of one wetland plant, purple loosestrife, but there will be no modification of hydrology or soils that would destroy or negatively modify wetlands. I find that Alternative 2 is designed so there will be no loss of wetlands (FEIS Section 3.3).

Executive Order 12962
Executive Order 12962 requires federal agencies to evaluate the effects of proposed activities on aquatic systems and recreational fisheries. I find that Alternative 2 minimizes the effects upon aquatic systems through project design, application of Forest Plan Standards and Guidelines, the State of Minnesota's Sustaining Minnesota Forest Resources Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers, and Resource Managers, and site-specific mitigation measures. Recreational fishing opportunities will remain the same and aquatic habitats are expected to improve in the long-term due to NNIP control in wetlands along shorelines (FEIS Section 3.3).

Executive Order 12898
This Executive Order directs federal agencies to identify and address the issue of environmental justice, i.e., adverse human health and environmental effects of agency programs that disproportionately impact minority or low-income populations.

While the alternatives may have differing effects on wildlife, fish, or native plants, as described in Chapter 3 of the FEIS, none of the alternatives would alter opportunities for hunting, fishing, and gathering by tribal members (FEIS Section 1.8).

ADMINISTRATIVE REVIEW (APPEAL) OPPORTUNITIES

This Decision is subject to appeal pursuant to Title 36 CFR 215. An appeal may be filed by those who have submitted comments for the Project during the 45-day comment period on the Draft Environmental Impact Statement. The appeal must be filed within 45 days of the date that the notification of this Decision is published in the *Duluth News Tribune*, the official newspaper of record, published in Duluth, Minnesota. The publication date of the legal notice is the exclusive means for calculating the time to file an appeal. The Notice of Appeal must be sent to:

USDA Forest Service, Eastern Region
ATTN: Appeal Deciding Officer,
Regional Forester Kathleen Atkinson
626 E. Wisconsin Avenue, Suite 700
Milwaukee, WI 53202

Fax number: 414-944-3963
Office Hours: 7:30 a.m. to 4:00 p.m. Central Standard Time,
Monday-Friday

Electronic address for email appeals: appeals-eastern-regional-office@fs.fed.us

Electronic File Formats: txt, html, pdf, or any file format viewable with MS Office applications

It is the responsibility of those who appeal a Decision to provide the Deciding Officer with sufficient narrative evidence and argument to show why this Decision should be changed or reversed. At a minimum, the written Notice of Appeal must:

- State that the document is a Notice of Appeal filed pursuant to 36 CFR part 215;
- List the name, address, and, if possible, a telephone number of appellant;
- Identify the decision document by title and subject, date of the decision, and name and title of the Responsible Official;
- Identify the specific changes(s) in the decision that the appellant seeks or portion of the decision to which the appellant objects;
- State how the Responsible Official's decision fails to consider comments previously provided, either before or during the comment period specified in 36 CFR 215.6 and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

IMPLEMENTATION DATE

This decision is anticipated to be implemented in fall 2013.

CONTACT

For additional information concerning this decision, contact: Jack Greenlee, Forest Botanist and Non-native Invasive Species Program Manager at jackgreenlee@fs.fed.us or 218-229-8817 or Laurentian Ranger District, 318 Forestry Rd., Aurora, MN 55705.

Brenda Halter 8-21-13

BRENDA HALTER Date

Forest Supervisor